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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,087	09/28/2004	Nozomu Sugo	258970US0XPCT	9940

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EXAMINER	
MCCRACKEN, DANIEL	

ART UNIT	PAPER NUMBER
1793	

NOTIFICATION DATE	DELIVERY MODE
08/06/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/509,087	SUGO ET AL.	
	Examiner	Art Unit	
	DANIEL C. MCCRACKEN	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-52* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Citation to the Specification will be in the following format: (S. # : ¶/L) where # denotes the page number and ¶/L denotes the paragraph number or line number. Citation to patent literature will be in the form (Inventor # : LL) where # is the column number and LL is the line number. Citation to the pre-grant publication literature will be in the following format (Inventor # : ¶) where # denotes the page number and ¶ denotes the paragraph number.

Response to Arguments

Applicants amendment to the Specification has been received and will be entered. The objection to the Specification is WITHDRAWN.

Applicants amendment to Claim 7 obviates the rejection under 35 U.S.C. §112, ¶2. Accordingly, the rejection is WITHDRAWN.

Applicant's arguments with respect to the rejections under 35 U.S.C. §102 have been fully considered but they are not persuasive. It is noted that Applicants arguments on pages 13-14 are irrelevant as they do not address the rejections in the non-final office action. Furthermore, Applicants' observation of other embodiments or background material in Fujino is wholly irrelevant to an anticipation analysis. "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." *In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

Applicants traversal is on the basis that Fujino allegedly fails to disclose "that both the carbonaceous material and the alkali metal hydroxide be maintained in the solid state during mixing, granulating, and dehydrating steps, as recited in present Claim 1 and claims dependent thereon." (Remarks of 4/9/2008 at 14). Thus, apparently Applicants allege that Fujino does not teach a "solid state," and do so by resorting to inherency. This is not persuasive. Fujino pulverizes a pitch to get powder, *i.e.* a "solid state." (Fujino 5: 58 *et seq.*). Fujino does not recite the temperature during mixing, so for this reason alone, Applicants argument that somehow the KOH "melts" and turns the mixture into a liquid fails-especially since both specification pg. 78 and the reference use about 2:1 KOH/carbon. Furthermore, solid state is so broad as to accommodate some melting, assuming *arguendo* that Fujino necessarily discloses the melting as Applicants believe. How soft can it be before it is no longer "solid state?" Where is this information in the specification? Subsequent correspondence should address these questions or be held non-responsive (if this point is traversed). Applicants explicitly contemplate and explicitly claim that the temperature can be greater than 80° C. *See* Claim 2. The rejections are maintained, *infra*.

Applicants arguments with respect to 38-52 have been considered and are persuasive. Accordingly, the rejection of Claims 38-52 is WITHDRAWN. Newly discovered prior is applied *infra*.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. The reference teaches each and every limitation of the rejected claims.

The pinpoint citations are in no way to be construed as limitations of the teachings of the reference, but rather illustrative of particular instances where the teachings may be found.

Claims 1-37 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 01/13390 to Fujino, et al. (US 7,214,646 B1 will be treated as a translation to which citations will be made.)

With respect to Claim 1, Fujino recites a process for making an activating carbon comprising mixing mesophase pitch (i.e. a carbonaceous material) with potassium hydroxide (KOH). See generally (Fujino 5: 18 et seq; "KOH" recited at 5:65 et seq.). Pulverizing (i.e. granulating) is taught. (Fujino 5: 19). Heating (i.e. dehydrating) is taught. (Fujino 5:18 et seq.). Activation is taught. Id. As to Claim 2, the temperature is greater than 80C. Id. As to Claim 4, Fujino discloses particle sizes smaller than 50 mm. See (Fujino "Figs. 5-6"). As to Claim 5, the dehydrating temperature is taught. (Fujino 5: 18 et seq.). As to Claim 7, given the ambiguities noted in the 112 ¶2, it is expected that whatever pressure may be recited in Fujino, it could be expressed in some manner of units that would be less than 15. As to Claims 8-9, mesophase carbon pitch is taught. (Fujino 15: 43-50). As to Claims 11-12, given the "pulverizing" treatments recited, it is expected that the sizes claimed are present. *See* (Fujino 5: 17-33). As to Claim 13, KOH is taught. (Fujino 5: 65 *et seq.*). As to Claim 14, thew ratio is taught. *Id.* As to Claims 15-19, the activating temperatures and times are taught. (Fujino "Col. 5," 12: 29 *et seq.*). As to Claims 20-23, the ability to heat in inert atmospheres (*see e.g.* Fujino 5: 26) necessarily recites the use of a kiln. As to Claim 24, it is expected – given that the process and materials used appear to be identical - that the crushing strength of the product is taught. "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted]." The burden of proof is similar to that

required with respect to product-by-process claims. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)). As to Claims 25-27, the ratios of KOH are taught. (Fujino 5: 65 *et seq*; "Tables 4-5").

With respect to Claims 28-37, it is noted that these claims are drafted in product-by-process format. "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted). *See also* MPEP 2113, *et seq*. Thus, with respect to Claims 28-31, activated carbons, "dehydration products," electrodes, etc. (which is all that the claim requires), are clearly taught. (Fujino 2: 1 *et seq*.). As noted above, the process limitations (while having absolutely no relevance to patentability) are taught. It is further noted that iron and nickel is explicitly taught over a range of 0.1-10 wt% (Fujino 8: 43 *et seq*) and density and capacitance values claimed are recited. (Fujino "Table 1"). As to Claim 35, a "double layer" capacitor is taught. *See* (Fujino "Title"). Finally, with respect to any claims that express esoteric properties (e.g. Claims 30, 37) it is expected - owing to the identical process - that these properties are present. *See above* with respect to inherency burden shifting.

Claims 38, 41-42, 46 and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 00/78138 to Guderian, et al. (28 December 2000) (US 6,902,589 to Guderian, et al. will be treated as a translation to which citations will be made).

With respect to Claim 38, Guderian teaches a mixture (Guderian 4: 15 *et seq.*) of a carbonaceous material (Guderian 3: 43-61) with an "alkali metal-comprising activator" (Guderian 4: 1-5). The material is heat treated (Guderian 5: 19-25), molded (Guderian 4: 47), and activated with heat. (Guderian 5: 34 *et seq.*). As to Claims 41-42, KOH is taught. (Guderian 4: 2). As to Claim 46, given that carbon, the activating agent, and heat activation is all taught, it is expected that resulting surface area is necessarily taught. "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted]." The burden of proof is similar to that required with respect to product-by-process claims. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)). As to Claim 47, since this claim doesn't explicitly require nickel, it reads on Guderian.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. The references cited teach each and every limitation of the rejected claims. The pinpoint citations are in no way to be construed as limitations of the teachings of the reference, but rather illustrative of particular instances where the teachings may be found. As to the rejection under 35 U.S.C. §§ 102/103, where the applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the

claim but the function is not explicitly disclosed by the reference, the Examiner may make a rejection under both 35 U.S.C. 102 and 103, expressed as a 102/103 rejection. See MPEP 2112 III. (discussing 102/103 rejections).

Claims 1-37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO 01/13390 to Fujino, et al. (US 7,214,646 B1 will be treated as a translation to which citations will be made.)

The discussion accompanying the anticipation rejection *supra* is expressly incorporated herein by reference. *See above* with respect to 102/103 rejections.

Claims 1-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/13390 to Fujino, et al. (US 7,214,646 B1 will be treated as a translation to which citations will be made.).

With respect to Claims 1-11, selection of the carbon material and the sizes to which it is ground to is well within the ordinary skill in the art. Fujino would suggest that any number of starting materials is acceptable. (Fujino 15: 43-50). Similarly, control of the size of the carbonaceous material by granulating is well within the skill in the art, as indicated by the pulverizing and the need to incorporate various additives (KOH, NaOH, etc.) in the mix. *See* (Fujino 2: 28). Further, it would be obvious to granulate/palletize to make any number of products, for example a monolith. Treatment at reduced pressures is within the skill in the art. As to Claims 15-19, to the extent Fujino may not recite the heating rates or temperatures as claimes,

Fujino clearly teaches the effect of temperature and the heating rate on activation. (Fujino 12: 29-42). Stated differently, temperature and heating rates are result-effective variables, readily optimized by the skilled artisan. *See In re Boesch*, 205 USPQ 215, 219 (CCPA 1980). With respect to Claim 20, to the extent Fujino may not recite *in haec verba* a "kiln" for heating, one of ordinary skill in the art would recognize kilns/ovens as suitable, even desirable heating means. As to Claim 21, to the extent Fujino may recite a batch versus continuous process, making a process continuous is prima facie obvious. *In re Dilnot*, 138 USPQ 248 (CCPA 1963). As to Claims 25-27, to the extent Fujino may not recite the ranges claimed, Fujino discloses the effect of a range of KOH values on any number of variables. (Fujino "Table 5, Fig. 16"). Optimization does not impart patentability. *In re Boesch*, 205 USPQ at 219. Similarly, with respect to Claims 32-34, optimization of metal content does not impart patentability. *See* (Fujino 9: 1 *et seq.*) (discussing the effect of metal).

Claims 38, 41-42, 46 and 47 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO 00/78138 to Guderian, et al. (28 December 2000) (US 6,902,589 to Guderian, et al. will be treated as a translation to which citations will be made).

The discussion accompanying the anticipation rejection *supra* is expressly incorporated herein by reference. *See above* with respect to 102/103 rejections.

Claims 38, 40-42, 44, 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 00/78138 to Guderian, et al. (28 December 2000) (US 6,902,589 to Guderian, et al. will be treated as a translation to which citations will be made) in view of Otowa, et al., *Development of KOH Activated High Surface Area Carbon and its Application to Drinking Water Purification*, Carbon 1997; 35(9): 1315-1317 (hereinafter "Otowa at __").

The discussion accompanying the anticipation rejection *supra* is expressly incorporated herein by reference. With respect to Claim 40, to the extent Guderian *may* not teach the ratio of carbon to activating agent, note that Guderian discloses that the activating agent (referred to as "aggregate" in Guderian) influences the properties of the resulting activated carbon. (Guderian 6: 41-43) ("The use of aggregates can also influence the product properties in the desired manner."). This reflects what is well known in the art. *See e.g.* (Otowa at 1317) ("The surface area and pore volume increased proportionally to the KOH/carbon weight ratio up to its value of about 4.") Thus, the amount of activating agent affects the extent of "activating" (surface area, porosity) in the activated carbon. Optimizing this result effective variable does not impart patentability. *In re Boesch*, 205 USPQ 215, 219 (CCPA 1980). Likewise, with respect to Claim 44, optimizing the pressure of the mold does not impart patentability.

Claims 39, 43, 45, and 49-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 00/78138 to Guderian, et al. (28 December 2000) (US 6,902,589 to Guderian, et al. will be treated as a translation to which citations will be made) in view of US 3,539,467 to Bozarth.

With respect to Claim 39, to the extent this claim repeats limitations discussed in conjunction with Claim 38 in the anticipation rejection *supra*, those discussions are expressly incorporated herein by reference. To the extent Guderian *may* disclose a generic pressing/molding versus the "hot-pressing" as claimed, this does not impart patentability. Bozarth teaches hot pressing of activated carbon. *See* (Bozarth 3: 60 *et seq.*). One would be motivated to employ hot pressing as Bozarth teaches and suggests that hot pressing "produces materials of greater hardness and attrition resistance." (Bozarth 3: 62-64). Note also the effect on pore structure. (Bozarth 4: 22 *et seq.*). As to Claim 43, the temperatures appear to be taught. (Bozarth 3: 10-24). As to Claim 45, optimizing the pressure does not impart patentability. As to Claims 49-50, KOH is taught. (Guderian 4: 2). As to Claim 51, given that carbon, the activating agent, and heat activation is all taught, it is expected that resulting surface area is necessarily taught. "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted]." The burden of proof is similar to that required with respect to product-by-process claims. *In re Fitzgerald*, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)). As to Claim 52, since this claim doesn't explicitly require nickel, it reads on Guderian.

Claim 48 rejected under 35 U.S.C. 103(a) as being unpatentable over Guderian and Bozarth as applied to claim 39 above, and further in view of Otowa, et al., *Development of KOH Activated High Surface Area Carbon and its Application to Drinking Water Purification*, Carbon 1997; 35(9): 1315-1317.

The discussion of Claim 39 *supra* is expressly incorporated herein by reference. With respect to Claim 48 to the extent Guderian *may* not teach the ratio of carbon to activating agent, note that Guderian discloses that the activating agent (referred to as "aggregate" in Guderian) influences the properties of the resulting activated carbon. (Guderian 6: 41-43) ("The use of aggregates can also influence the product properties in the desired manner."). This reflects what is well known in the art. *See e.g.* (Otowa at 1317) ("The surface area and pore volume increased proportionally to the KOH/carbon weight ratio up to its value of about 4.") Thus, the amount of activating agent affects the extent of "activating" (surface area, porosity) in the activated carbon. Optimizing this result effective variable does not impart patentability. *In re Boesch*, 205 USPQ 215, 219 (CCPA 1980).

Conclusion

All amendments made in response to this Office Action must be accompanied by a pinpoint citation to the Specification (i.e. page and paragraph or line number) to indicate where Applicants are drawing their support.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL C. MCCRACKEN whose telephone number is

(571)272-6537. The examiner can normally be reached on Monday through Friday, 9 AM - 6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel C. McCracken/
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